



Features

- Leadless, surface mount for economical assembly
- Low capacitance and insertion loss
- High surge current rating
- Fast response to transients
- Compact “mini” size
- RoHS compliant* version available

2039-xxx-SM Precision, Fast Responding, High Voltage Gas Discharge Tube

Bourns now offers miniature Surface Mount (SM) 2-electrode GDT surge protectors with sparkover voltage up to 1100 V. Compatible with “pick and place” assembly systems and only 5 mm in diameter, the 2039 Series is ideal for board level protection of high band-width applications such as xDSL, cable broadband and high speed Ethernet. The 2039 Series features high energy-handling capability, long and stable life performance and low capacitance of less than 1 pF.

Bourns® GDTs are designed to prevent damage from transient disturbances by acting as a “crowbar” to create a short-to-ground circuit during conduction. When an electrical surge exceeds the defined breakdown voltage level of the GDT, the device becomes ionized and conduction takes place within a fraction of a microsecond. When the surge passes and system voltage returns to normal levels, the GDT returns to its high-impedance (off) state.

Characteristics

Test Methods per ITU-T (CCITT) K.12, IEEE C62.31

Characteristic	Model No.	
	2039-80-SM	2039-110-SM
DC Sparkover $\pm 20\%$ @ 100 V/s	800 V	1100 V
Impulse Sparkover @ 1000 V/ μ s	1250 V	1500 V

Insulation Resistance (IR)	100 V	$> 10^9 \Omega$
Arc Voltage	1 A	~ 10 V
Glow-Arc Transition Current		< 0.5 A
Capacitance	1 MHz	< 1 pF
DC Holdover Voltage ¹	135 V	< 150 ms
Max. Single Discharge ²	5 kA	> 1 operation
Impulse Discharge Current	2.5 kA, 8/20 μ s ²	> 10 operations
	100 A, 10/1000 μ s	> 100 operations
	10 A, 10/1000 μ s	> 1500 operations
Alternating Discharge Current	2.5 Arms, 1 s	> 10 operations
Operating and Storage Temperature		-55 to +85 °C

Notes:

- Sparkover limits after life +30/-25 %, IR $> 10^8 \Omega$.
- At delivery AQL 0.65 Level II, DIN ISO 2859.

¹ Network applied.

² DC Sparkover may exceed +30/-25 % but will continue to protect without venting.



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Europe: TEL +41-41 768 5555 • FAX +41-41 768 5510

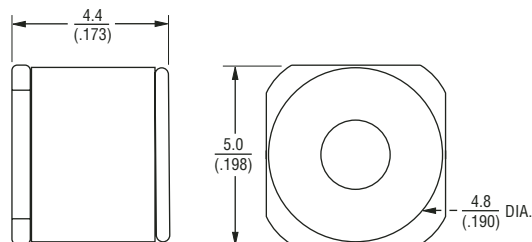
The Americas: TEL +1-951 781-5500 • FAX +1-951 781-5700

www.bourns.com

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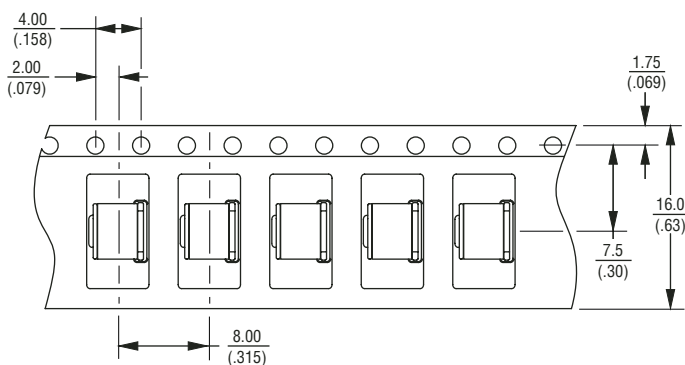
Product Dimensions



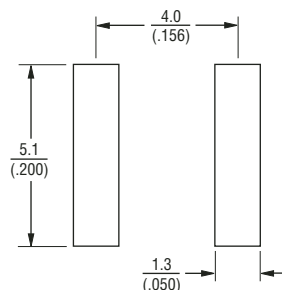
Packaging Specifications

The Model 2039-xxx-SM ships standard bulk pack, 100 pieces per bag.

The optional reelpack (-RP) contains 1,500 pieces per reel. Reel is 13 " in diameter and 3/4 " wide.



Recommended Pad Layout



DIMENSIONS = $\frac{\text{MILLIMETERS}}{\text{(INCHES)}}$

How To Order

Model Number Designator _____ **2039 - xx - SM - RP LF**

Voltage _____

Surface Mount _____

Packaging Options _____
 Blank = Bulk Packaging (Standard)
 RP = Reelpack (Optional)

Lead Free Option _____
 Blank = Standard Product
 LF = Lead Free / RoHS Compliant Product